

Notice of Allowability

Application No.

09/747,571

Examiner

Michael I Poe

Applicant(s)

LINES ET AL.

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1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on March 8, 2004.
2. ☒ The allowed claim(s) is/are 1-20 (renumbered 1, 10-12, 2, 8-9, 4-7, 3, 13, 19-20, 15-18 and 14, respectively).
3. ☒ The drawings filed on 22 December 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>20040326</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

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EXAMINER'S AMENDMENT

Authorization

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's attorney Robert Fieseler on March 26, 2004.

Amendments

2. The application has been amended as follows:

The title has been changed to

-- METHOD FOR EMBOSSING EXPANDED GRAPHITE SHEET MATERIAL UNDER REDUCED PRESSURE --.

The abstract has been amended as follows:

Line 1, -- method for -- has been inserted after "improved"; and

Line 2, "comprises" has been deleted before "removing" and -- including -- has been inserted before "removing".

The specification has been amended as follows:

Line 4, -- now abandoned, -- has been inserted before "entitled".

Claim 1 has been replaced by the following:

1. (Currently Amended) A method of embossing expanded graphite sheet material comprising:
embossing said expanded graphite sheet material in an embossing atmosphere at a reduced pressure less than atmospheric pressure; and
maintaining said [a] reduced pressure at least during the embossing step,

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whereby gas trapped within said expanded graphite sheet is removed by said reduced pressure during the embossing step.

Claim 4 has been amended as follows:

Line 1, "1" has been deleted before "wherein" and -- 3 -- has been inserted before "wherein".

Claim 13 has been replaced by the following:

13. (Currently Amended) A method of embossing expanded graphite sheet material comprising:
removing at least a portion of the gas from within said expanded graphite sheet material by
exposing said material to a pressure less than atmospheric pressure[, and then];

[then] embossing said expanded graphite sheet material in an embossing atmosphere at a reduced pressure less than atmospheric pressure; and

maintaining said reduced pressure at least during the embossing step,

whereby gas trapped within said expanded graphite sheet is removed by said reduced pressure during the embossing step.

Examiner's Statement(s) of Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

(1) The prior art of record does not teach or suggest the claimed methods of embossing expanded graphite sheet material, as a whole, especially including embossing the expanded graphite sheet material in an embossing atmosphere at a reduced pressure less than atmospheric pressure and maintaining the reduced pressure at least during the embossing step whereby gas trapped within the expanded graphite sheet is removed by the reduced pressure during the embossing step.

(2) Although it is generally known in the art to remove air bubbles using a vacuum or reduced pressure from graphite **powders** during forming thereof into an expanded graphite sheet material (see, for example, Japanese Patent Publication No. 10-040937 A to Seiji) and it is generally known in the art to emboss preformed expanded graphite sheet materials (see, for example, U.S. Patent No. 5,527,363 to Wilkinson et al.), there is

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not suggestion or motivation to combine these processes to remove air bubbles using a vacuum or reduced pressure from a **preformed** expanded graphite sheet material during the embossing of the preformed expanded graphite sheet material because the problems identified by the applicant are not recognized by the prior art of record (See also applicant's arguments on page 10, 4th paragraph and page 11, 1st paragraph of the response filed on March 8, 2004).

- (3) In page 10, line 24 - page 11, line 1, the applicant defines the term "expanded graphite sheet material" as preformed sheet materials comprising expanded graphite as exemplified by U.S. Patent No. 5,885,728 (See also applicant's arguments on page 9, 2nd paragraph through page 10, 1st paragraph of the response filed on March 8, 2004).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I Poe whose telephone number is (571) 272-1207. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianne can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael Poe/mip


MICHAEL COLAIANNI
PRIMARY EXAMINER

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PROPOSED AMENDMENTS TO SERIAL # 09/747,571

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-- METHOD FOR EMBOSSING EXPANDED GRAPHITE SHEET MATERIAL UNDER REDUCED PRESSURE --.

The abstract would be amended as follows:

line 1, -- method for -- would be inserted after "improved"; and
line 2, "comprises" would be deleted before "removing" and -- including -- would be
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Claim 1 would be replaced by the following:

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 embossing said expanded graphite sheet material in an embossing atmosphere at a reduced pressure less than atmospheric pressure; and
 maintaining said [a] reduced pressure at least during the embossing step,
 whereby gas trapped within said expanded graphite sheet is removed by said reduced pressure during the embossing step.

Claim 13 would be replaced by the following:

13. (Currently Amended) A method of embossing expanded graphite sheet material comprising:
 removing at least a portion of the gas from with said expanded graphite sheet material by exposing said material to a pressure less than atmospheric pressure[, and then];

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[then] embossing said expanded graphite sheet material in an embossing atmosphere at a reduced pressure less than atmospheric pressure; and
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whereby gas trapped within said expanded graphite sheet is removed by said reduced pressure during the embossing step.